UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
11201 Renner Boulevard
Lenexa, Kansas 66219

AUG 1 1 2016

MEMORANDUM

SUBJECT: Estimated Construction Timeframes for Remedial Alternatives in Support of the Proposed Plan for Operable Unit 08 - Railroads, Cherokee County Superfund Site

FROM: Elizabeth Hagenmaier, Remedial Project Manager
Special Emphasis Remedial Branch

THRU: Preston Law, Acting Section Chief
Special Emphasis Remedial Section

TO: Site File

This memorandum transmits a document that includes estimated construction timeframes for Remedial Alternatives in support of the Proposed Plan for Operable Unit 08 – Railroads, Cherokee County Superfund site in Cherokee County, Kansas. The document was received on August 4, 2016, via electronic mail from Andrea Fletcher of Hydrogeologic, Inc. (HGL). HGL performed the work as part of task order #61 under contract EP-S7-05-05. The estimated construction timeframes were calculated for each remedial alternative identified in the Feasibility Study for Operable Unit 08 and included in the Proposed Plan as part of the Remedial Alternative analysis.

I can be reached at (913) 551-7939 if there are any questions or a need for additional information.

Attachment

30286484
Superfund

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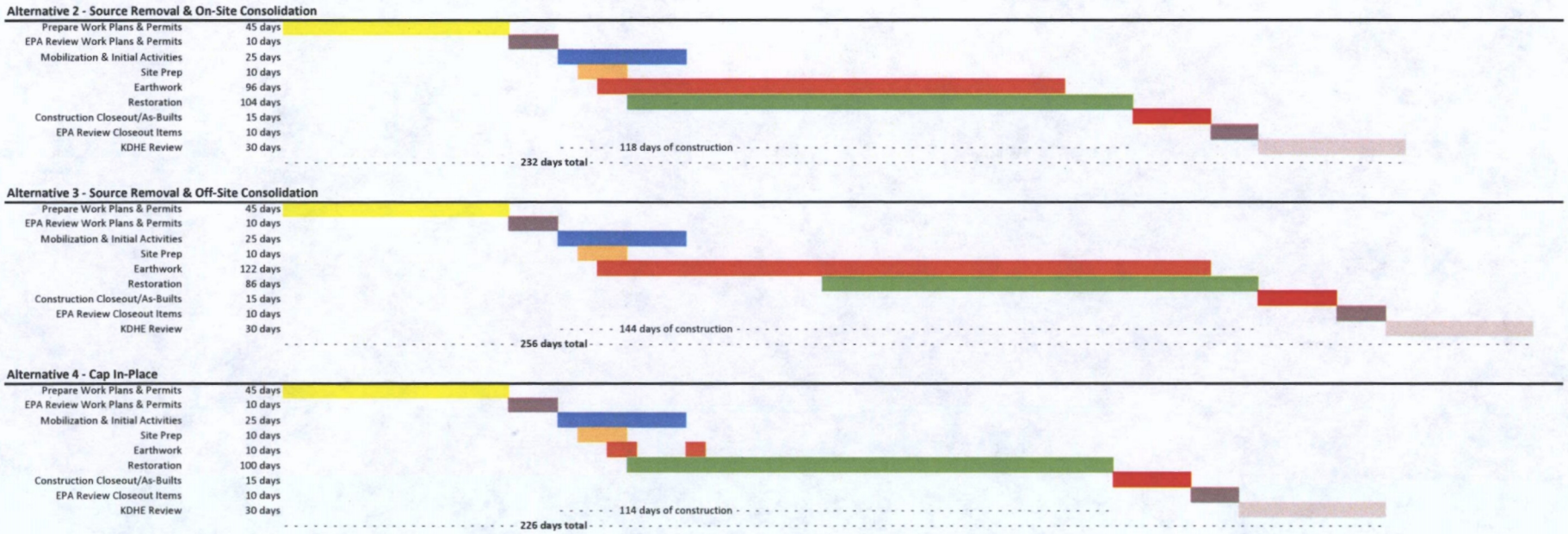
Estimated Timeframes for Construction Activities and to Reach RAOs



Notes:

Each cell represents 2 workdays

Bar graph only includes workdays and is not a representation of total calendar days (does not include weekends or holidays)

Assumptions:

Contractor will use multiple crews so that the XRF, excavate, XRF, backfill, grading, seeding/mulching tasks will run concurrently and will not lag more than 1 week behind the last task.

XRF Confirmation Sampling overlaps Earthwork/Backfilling by 3 days

Restoration overlaps Earthwork/XRF Confirmation Sampling by minimum of 10 days

Earthwork cannot be completed until the initial XRF survey is finished (Alt 4 only)

Site: Cherokee County Superfund Site OU8
Location: Cherokee County, Kansas
Phase: Feasibility Study
Base Year: 2016
Date: 8/1/2016

Description: Estimated Construction Timeframes for Alternatives 2 Through 4
Alternative 2: Source Removal, On-Site Waste Consolidation and Capping
Alternative 3: Source Removal, Waste Consolidation and Capping at OU3/OU4 Consolidation Areas
Alternative 4: Containment and Capping in Place

			ESTIMATED WORK QUANTITIES			ESTIMATED TIMEFRAMES (days)			
Item	Description		Alt 2	Alt 3	Alt 4	Alt 2	Alt 3	Alt 4	Notes
01 - Initial Activities									
01	Mobilization		1	1	1	1	1	1	Assume 1 day for initial mob and 1 day for each additional move to next major work area
02	Temporary Fencing	LF	2,000	2,000	2,000	4	4	4	Assume 500 LF per day
03	Temporary Access/Haul Road Improvements	LS	8	8	8	4	4	4	Assume half day for each additional move to next major work area
04	XRF Grid Survey	EA	12,343	12,343	12,343	22.9	22.9	22.9	Assume 3 crews taking 20 shots/hour each
02 - Site Preparation									
05	Construction Survey and Staking	DY	2	2	2	2	2	2	
	Temporary Erosion and Sediment Control - Pre-Construction								
06	Stabilized Construction Entrance	EA	2	2	2	2	2	2	
07	Silt Fence	LF	10,000	10,000	10,000	8.3	8.3	8.3	Assume 1,200 LF/day
08	Straw Bales	EA	5,800	5,800	5,800	1.8	1.8	1.8	Assume 6 minutes/bale (including installation and travel time)
09	Clearing and Grubbing	AC	180	180.0	180	27	27	27	Assume 30% of the area is exposed mine waste (does not require clearing); can clear 2 acres/day
10	Demolition								
	Barbed Wire Fence Demolition	LF	3,200	3,200	3,200	8	8	8	Assume 400 LF/day
04 - Earthwork									
	Mine Waste and Contaminated Soil								
11	Excavation, Hauling, and Placement - On Site Consolidation	BCY	265,800			77		10	Assume consolidation within 1 mile of its excavation point; six 16CY trucks making 36 runs/day. Assume 2 weeks of minor on-site grading/shaping for Alt 4
12	Excavation, Hauling, and Placement - Consolidation Area <10 miles	BCY		113,500			40		Assume 2 loaders and sixteen 16CY trucks making 11 cycles/day/each
13	Excavation, Hauling, and Placement -Consolidation Area 10 to 30 miles	BCY		210,700			94		Assume 2 loaders and twenty 16CY trucks making 7 cycles/day
14	XRF Confirmation Sampling	EA	4,135	4,135		26	26	0	Assume 6 min/transect on 50' spacing and 2 crews/day
05 - Restoration									
	Import and Place Soil from Off-Site Borrow Sources								
	General Restoration								
15	Select Fill	ECY	96,500	117,676		60	74	0	Assume 1,600CY/day for 2 medium dozers
16	Top Soil - Fine Grading	ECY	55,800	68,042		56	68	0	Assume 1,000CY/day for 2 medium tractors
	Mine Waste Consolidation Area								
17	Select Fill	ECY	54,200		142,000	34	0	89	Assume 1,600CY/day for 2 medium dozers
18	Top Soil - Fine Grading	ECY	28,000		69,000	28	0	69	Assume 1,000CY/day for 2 medium tractors
19	Finish Grading	AC	142	142	142	14	14	14	Assume 10% of total disturbed area needs minor grading before seeding/mulching
20	Mine Waste Consolidation Area Boundary Monuments	EA	348		348	7	0	3	
	Seed/Fertilizer/Mulch								
21	Seed - Pasture	AC	142	142	142	31.6	31.6	31.6	Assume 4.5 ac/day hydromulch including seed, fertilizer, and mulch
22	Seed - Native	AC							
23	Seed - Wetland	AC							
	Drainage Improvements								
24	Drainage Swale/Replace Roadway Ditch	LF	4,135	4,135	4,135	4.1	4.1	4.1	Assume 1,000 LF/day
25	Replace/Repair Access Gate	EA	16	16	16	8	8	8	Assume 4 hours per location
26	Replace/Repair Barbed Wire Fence	LF	3,840	3,840	3,840	6.4	6.4	6.4	Assume 600 LF/day
27	Remove/Repair Temporary Access/Haul Road	LS	13	13	13	6.4	6.5	6.4	Assume 2 locations per day
	Temporary Erosion and Sediment Control - Post-Construction								
28	Silt Fence	LF	10,000	10,000	10,000	8.3	8.3	8.3	Assume 1,200 LF per day
29	Straw Bales	LF	5,800	5,800	5,800	1.4	1.4	1.4	Assume 6 minutes/bale (including installation and travel time)
30	Straw Wattles	LF							
31	Inspection and Maintenance	LS	1	1	1	1	1	1	Walking inspection of all disturbed areas plus miscellaneous topsoil repair and seeding.
					Total Work Days:	**450**	**464**	**333**	

Notes:
AC: Acre; BCY: Bank Cubic Yard; DY: Day; EA: Each; ECY: Embankment Cubic Yard; LF: Linear Feet; LS: Lump Sum; SY: Square Yard

Revised estimated total length of OU8 is 206,750 LF